



Working for a cleaner bay



Design Regulations, Construction Practices and Good Housekeeping Requirements for
new building projects and existing properties to reduce urban runoff water pollution

Planning for a Cleaner Bay



Design Regulations, Construction Practices and Good Housekeeping Requirements for new building projects and existing properties to reduce urban runoff water pollution

Urban runoff flowing through storm drains is the greatest single source of pollution to the beaches and near shore waters of the Santa Monica Bay. Unlike sewage and discharges from industrial sources, urban runoff is not generally adequately treated before it reaches the Bay and our beaches.

The City of Santa Monica passed an Ordinance that is designed to reduce the amount of urban runoff pollution that reaches our storm drain system and the Santa Monica Bay. The Ordinance requires a 0.75" reduction in urban runoff flowing off of all impermeable surfaces from all newly developed or retrofitted parcels within the City. The Ordinance also specifies guidelines for existing properties and new construction sites to reduce the level of contaminants that are carried by urban runoff into the Bay.



Reducing runoff means lowering the levels of harmful bacteria, toxics, and other forms of pollutants affecting the Bay. Reducing the amount of urban runoff and the amount of pollutants contained in the runoff are essential for the health and safety of our community. A cleaner Bay means a healthier marine ecosystem and improved quality of life for residents, and increases Santa Monica's appeal to visitors and businesses.



Let's keep our water clean!

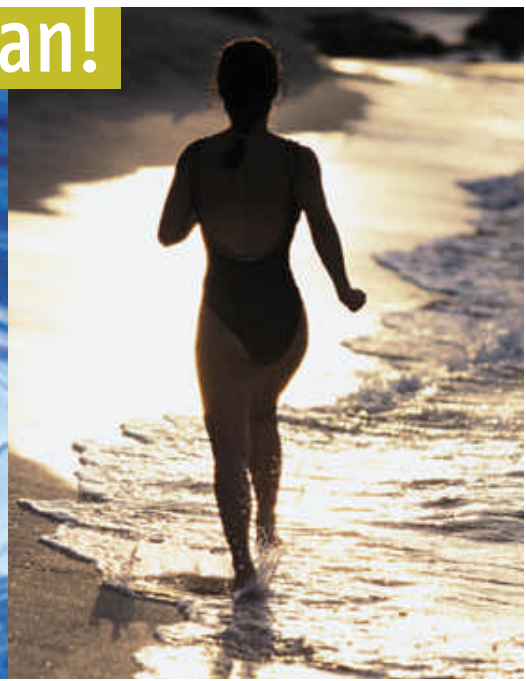
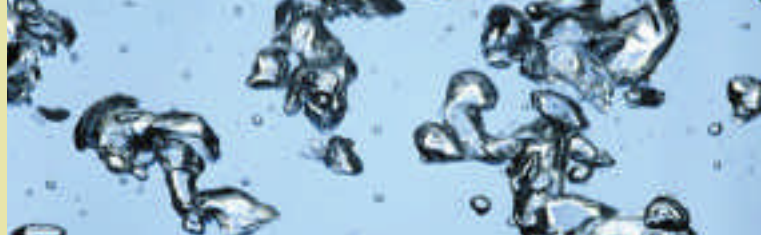
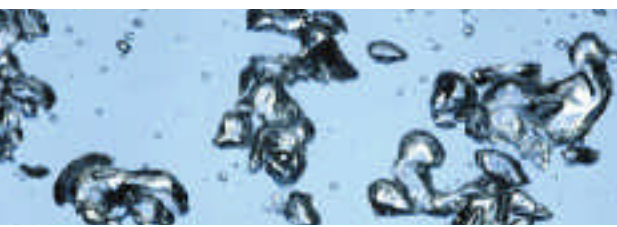


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Best Management Practices

Reducing Urban Runoff Pollution for a Cleaner Bay

Hazardous and toxic substances like automotive fluids and pesticides, debris and trash from residential and commercial construction, pet wastes, paint products and much more are washed into our storm drain system and into the Santa Monica Bay on a daily basis even during dry weather and especially during the rainy season. This liquid waste, called urban runoff pollution, is the single largest source of water pollution into the Bay, and it is a major threat to the health and safety of our residents and businesses, and to the marine ecosystem.

By implementing Best Management Practices (BMPs) and Good Housekeeping Guidelines, and making these strategies part of our lives, we can make a genuine difference - - reduce the quantity of urban runoff pollution.

Putting the LID on Urban Runoff, the Santa Monica Way

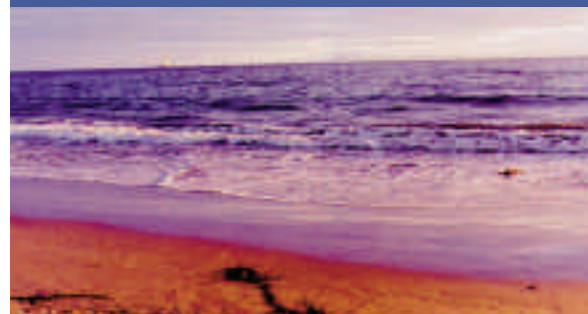
In the City's efforts to reduce runoff pollution through the use of BMPs, we can manage, use and redevelop our lands in a more sustainable manner through the use of low impact development (LID) and smart growth design strategies and BMPs. LID is an economically and environmentally responsible strategy to site development and urban runoff management, whether single family or large commercial projects, that integrates land planning and site design practices and techniques to mitigate development impacts to land, water and air, to conserve and protect natural resources and ecosystems, and to reduce infrastructure costs, i.e. storm drain systems. This approach still allows land development, but in a cost-saving manner that also mitigates potential environmental impacts.

This strategy views each development project as a small micro-watershed, part of the greater watershed or drainage basin of a particular area. The strategy promotes the concept of "start at the source," that is, to keep as much precipitation on each micro-watershed where the rain falls and to minimize the amount of runoff leaving a site. When a project is planned and designed from its inception adopting LID through the BMP approach, the goals of maximizing onsite runoff harvesting and minimizing runoff pollution in receiving waters are realized.

This design and development philosophy follows the principles found in Santa Monica's Sustainable City Plan, and is the basis for what follows in this brochure and what the City promotes and practices.



**BMPs keep
pollution from
flowing into
the Bay.**



Design Requirements to Reduce Urban Runoff

Requirements for New Development

When submitting an application for a new or retrofit development project, you are required to submit an Urban Runoff Mitigation Plan to the City of Santa Monica's Department of Environmental and Public Works Management. The Urban Runoff Mitigation Plan you develop will be your guideline to ensure that the projected urban runoff from your proposed project is reduced by at least a volume equivalent to the surface area of all impermeable surfaces times 0.75". By incorporating specific design elements and principles, your plan will meet requirements outlined in the Urban Runoff Pollution Control Ordinance.

Reduce Parking Lot Pollution

(Ordinance Section 7.10.050 b)

Options to meet this requirement include curb-less green strip filters and porous pavement to capture and percolate runoff where possible.

Penalties for Non-Compliance

(Ordinance Section 7.10.070 a.2)

Failure to implement an approved Urban Runoff Mitigation Plan shall constitute an infraction punishable by a fine of \$500. Each day that a violation occurs shall constitute a separate offense.

Design Principles to Reduce Urban Runoff

Maximize Permeable Areas

(Ordinance Section 7.10.050 b.1)

One of the most effective ways to reduce urban runoff is to increase the percentage of permeable surfaces and landscaped areas in your project design: (1) porous materials will increase the amount of runoff that seeps into the ground, rather than being carried into storm drains, (2) natural drainage, (3) infiltration pits, and (4) swales, berms, green strip filters, gravel beds and french drains.

Maximize Runoff to Permeable Areas and Reuse Storm Water

(Ordinance Section 7.10.050 b.2)

By diverting urban runoff from areas where it cannot seep into the ground and by reusing it whenever possible, urban runoff can be greatly reduced and infiltration maximized. This may be achieved by installing rain gutters and directing them to permeable surfaces (downspout disconnect or redirect strategy), and infiltration pits (drywells) or other retention-storage structures, i.e. rain gardens and cisterns, to collect and store runoff for infiltration or reuse.



<Designers must incorporate principles that reduce urban runoff in the design of new developments!>

Design Requirements to Reduce Urban Runoff

Eligibility Criteria for a Waiver

(Ordinance Section 7.10.050 b)

A full or partial waiver of compliance from these requirements may be obtained by applying to the City of Santa Monica's Department of Environmental and Public Works Management. A waiver may be granted if you demonstrate that incorporating urban runoff reduction elements to comply with the Ordinance is an economic hardship or a physical impossibility due to the configuration of the site or due to the irreconcilable conflicts with other City requirements.

Recognized circumstances demonstrating impracticability include: (i) extreme limitations of space for treatment, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, or (iii) any potential risk of groundwater contamination. Any other justification for impracticability must be reviewed by the City.

At a minimum under any waiver situation, the City requires a mitigation banking fee and/or downspout inserts to filter debris and some soluble pollutants from your building's runoff before it leaves your property and enters the public storm drain system. Contact the City's urban runoff coordinator for vendor-product information.

Gutters/Downspouts Design Criteria

(Ordinance Section 7.10.050 d)

Any construction project adding downspouts, gutters and sub-surface pipes directing stormwater to the curb face shall have a french drain system of perforated pipe and gravel unless site-specific circumstances endanger public safety so as to prohibit its use. The requirements of this subsection shall apply even if the project does not constitute new development as defined by this Ordinance.

Non Single-Family Design Criteria

(Ordinance Section 7.10.050 c.1.2.3.4)

The design elements established in this subsection shall be required for all new development except single family residences. These design criteria deal with strategies to keep precipitation and urban runoff out of or from mixing in the following areas: (i) Loading and unloading dock areas, (ii) Repair and maintenance bays, (iii) Vehicle and equipment wash areas, (iv) Fueling areas, and (v) Trash areas.

Where new development will include outdoor areas for the storage of material that may contribute pollutants to the storm water conveyance system including trash areas, these materials must be completely enclosed or covered thereby protecting them from contact with water.



<The wrong way to design gutters and downspouts!>



Urban Runoff Mitigation Plan: Submission and Approval

When you submit your application for a new or retrofit development, you must also submit an Urban Runoff Mitigation Plan (Section 7.10.050 a). This plan will detail how your proposed project will comply with all applicable Ordinance requirements including a 0.75" reduction in total runoff from all impermeable areas on your site. This plan must also describe how your proposed post-construction Best Management Practices will be maintained annually to ensure their continued effectiveness and will be transferred during property sale.

A standard form to be used in the completion of your Urban Runoff Mitigation Plan is available with

this brochure, from the Civil Engineering Division or on-line. Each plan that is submitted will be evaluated on its own merit according to particular characteristics of the project and of the site to be developed. The City will either approve or disapprove an Urban Runoff Mitigation Plan depending upon the complexity of the project. No building permit will be issued for a project covered under the Ordinance until a mitigation plan has been approved by the City. The final certificate of occupancy will be issued only upon inspection and approval of the Plan's completed BMPs by the City's Urban Runoff Management Coordinator, a City Engineer, or City Inspector.

Design Solutions

The following photos provide examples of BMPs that can be incorporated into new development to meet City urban runoff mitigation requirements.

Additional brochure inserts are available to provide additional information for design, including drawings and references.



<Commercial french drain>



<Commercial biofilter walkway>



<Catch basin protection
to reduce sediment loading>



<Institutional parking
lot biofilter>

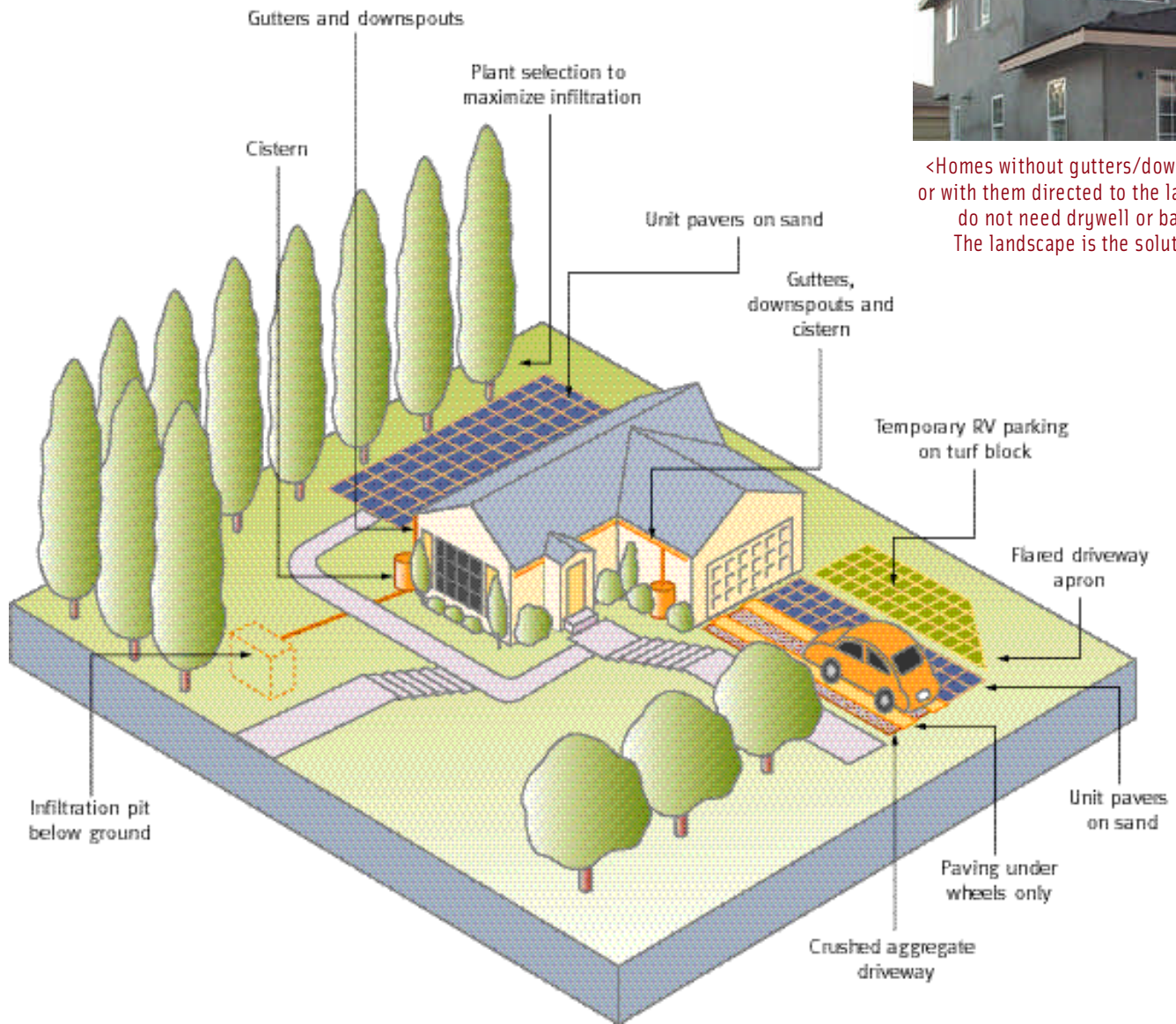


<Commercial parking
lot biofilter>

Single-Family Residential Development



<Homes without gutters/downspouts or with them directed to the landscape do not need drywell or basin. The landscape is the solution>



<Downspouts and pipes from roof gutters take runoff into infiltration pit>

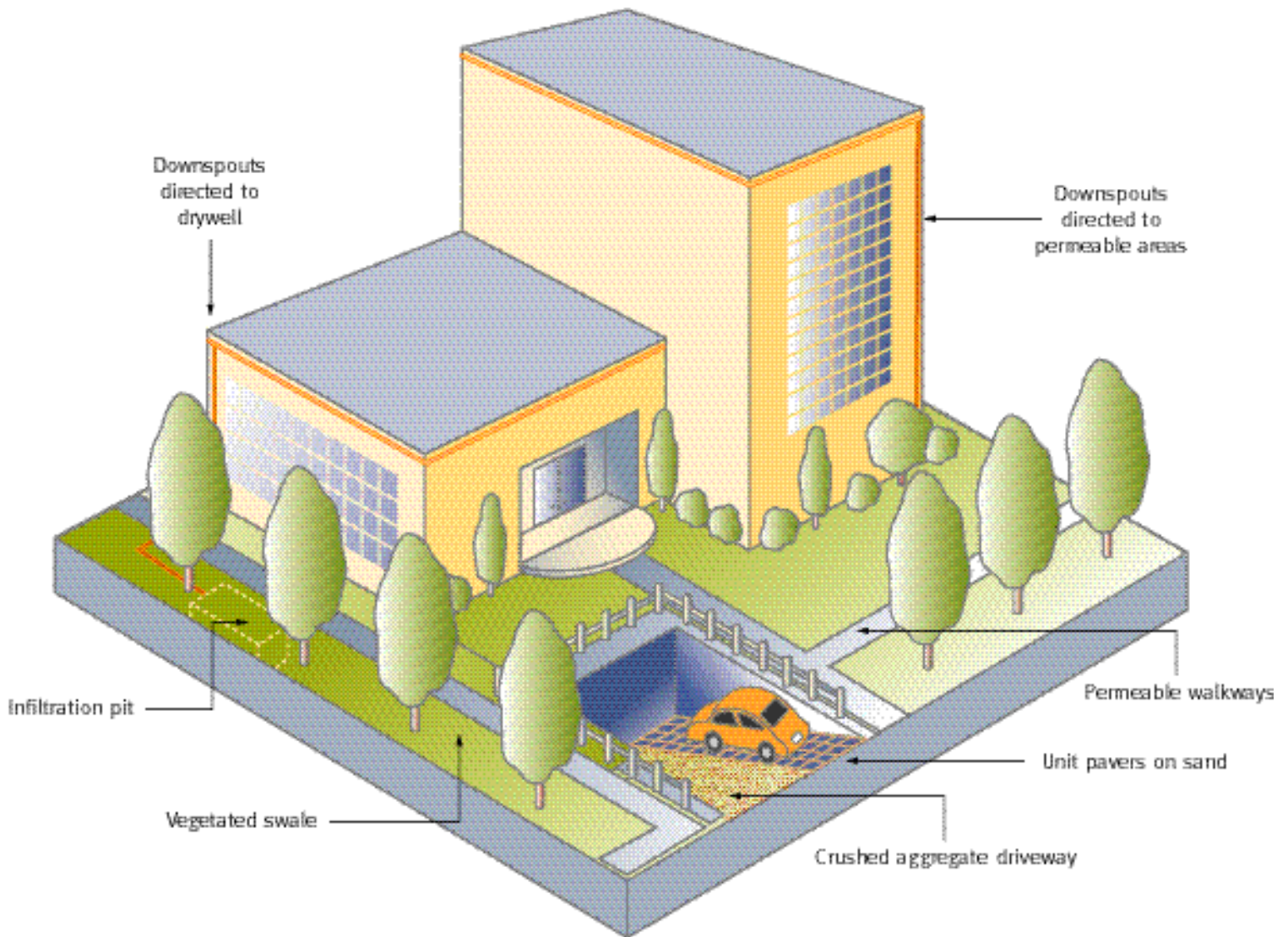


<Sub-surface infiltration pit with filter fabric lining and influent pipe from roof>



<Elaborate infiltration pit with circular receiving sump and filter mesh>

Multi-Family Residential and Commercial Development



<Parking lot runoff enters biofilter for treatment and percolation, instead of flowing onto streets>

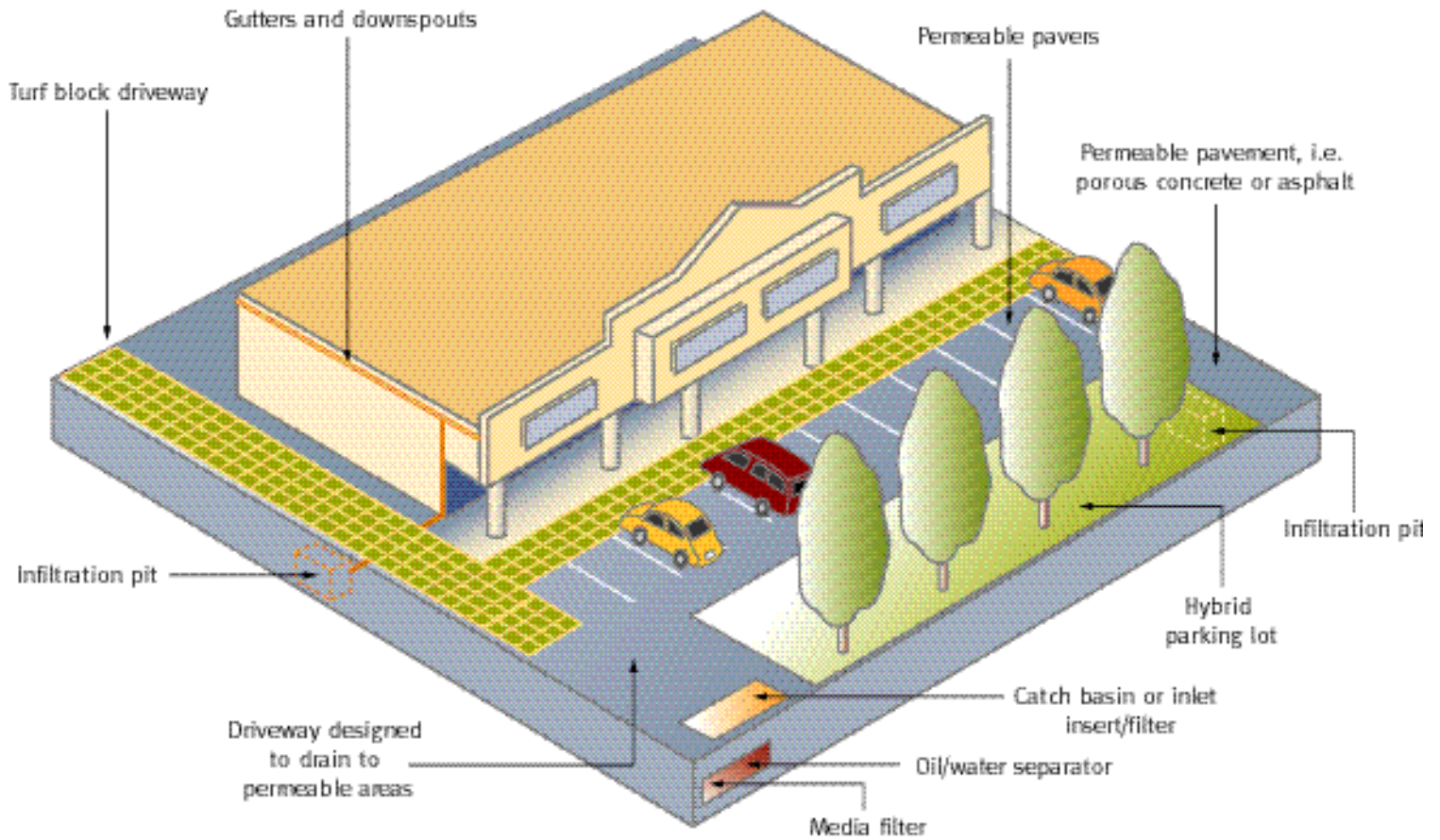


<Infiltration pit with stackable plastic matrix instead of rock allows more storage of runoff. White perforated pipes bring in runoff>



<Parking lot of small office building made of concrete permeable pavers>

Commercial Shopping Development



<Erosion-control mats for exposed landscapes (without vegetation) to prevent soil erosion, which is one component of runoff pollution>



<Wastes from concrete truck stored in wooden box to prevent runoff of construction wastes into the street and the Bay>



<Runoff from supermarket parking lot is diverted into this large infiltration pit system, which is under the parking lot>

Projects Under Construction: Requirements to Reduce Urban Runoff

All projects undergoing construction in the City of Santa Monica must follow specific Best Management Practices (BMPs). BMPs insure that pollutants do not come in contact with precipitation or washing activities and stay on-site, and do not get washed or dumped into the storm drain system. The BMPs listed below are required by this Ordinance. BMPs must be put into practice at the time of demolition of an existing structure, or at the start of new construction. BMPs are to remain implemented until a certificate of occupancy has been issued.

Best Management Practices (BMPs)

Sediment and construction waste from construction sites and parking areas must not leave the site. Runoff must be filtered before leaving the site. (Ordinance Section 7.10.060).

Any sediments or other materials that are tracked off the site must be cleaned and removed the same day.

A covering shall be used to prevent erosion of any unprotected area, such as mounds of dirt or dumpsters, along with devices designed to intercept and safely divert runoff. Precipitation and wind-transported sediments, and other debris carried off-site cause pollution.

For any cement-concrete mixing, paint removal and preparation, sandblasting or hard surface cutting (i.e. sidewalks) activities that will result in particles entering the air or landing on the ground, BMP steps shall be implemented to prevent or minimize such particle releases into the environment.

Washing of construction or other industrial vehicles will not be allowed adjacent to the construction site. Commercial vehicle wash facilities must be used. No polluted runoff from the washing of vehicles on a construction site shall be allowed to leave the site.

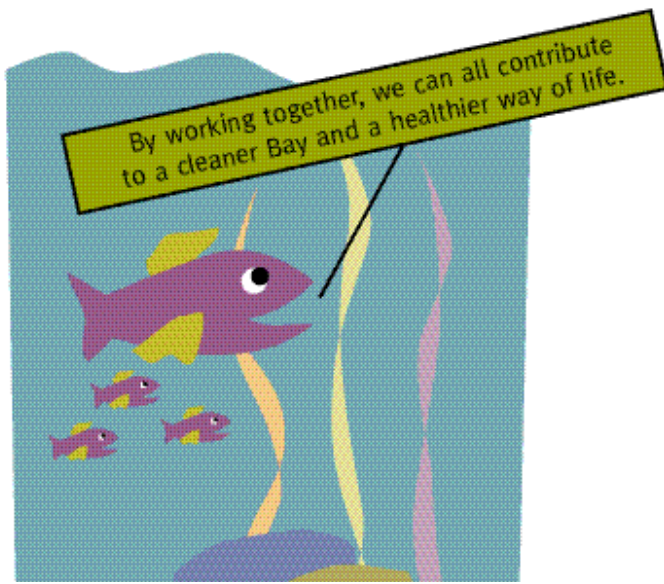
Drainage controls shall be used depending on the extent of proposed grading and topography of the site, including, but not limited to the following: (1) Detention ponds, sediment ponds, and infiltration pits, (2) Dikes, filter berms or ditches, and (3) Downdrains, chutes or flumes.

Penalties for Non-Compliance

Failure to implement BMPs at construction sites shall constitute an infraction punishable by a fine of \$500. Each day that a violation occurs will constitute a separate offense. Construction sites may also be subject to work stoppage for violation of these requirements.

Projects Greater Than One Acre

A copy of any Storm Water Pollution Prevention Plan (SWPPP) required to be submitted to the Regional Board shall be submitted to the City at the same time. Presently, a SWPPP is required by the State for any development project one acre or greater, or can be required by the Director of Environmental and Public Works Management Department for health and safety reasons.



Existing Properties: “Good Housekeeping” Requirements to Reduce Urban Runoff

The Urban Runoff Pollution Control Ordinance requires that all properties in the City follow a set of common sense “Good Housekeeping” guidelines. These guidelines apply to commercial, institutional, industrial and residential properties in the City of Santa Monica (Ordinance Section 7.10.040).

Good Housekeeping Guidelines: Reducing Runoff Pollution

Water used for irrigation shall not be allowed to run off the site.

Washing down paved areas, such as alleys, sidewalks and driveways, is prohibited unless necessary for health and safety reasons.

If washing down paved areas is permitted or authorized, BMP measures shall be implemented to remove solids, such as litter and debris, sediments and hydrocarbons and other organic chemicals, before the water enters a storm drain or catch basin. Dirty waste water shall be bermed, collected, and disposed of into the sanitary sewer system.

Storage of unsealed containers of materials and products containing substances that may contribute pollutants to the stormwater conveyance system is prohibited in uncovered outdoor areas.

Commercial tenants, multi-family building managers and industrial owners shall inspect trash receptacles and refuse storage areas on a weekly basis for loose garbage and liquid waste residue, and shall not allow such garbage and residue to enter the storm drain system.

Trash receptacles shall have solid covers and shall be closed to prevent the entry of rain and the exit of wind-blown litter. Trash receptacles shall be maintained without broken covers and leaks. Consult with the Water Resources Protection Section for more information.

Swimming pool backflushing, draining and overflows shall be plumbed or directed to the sanitary sewer **not** to the storm drain. Consult with a city engineer or the Water Resources Protection Section.

Car washing produces polluted runoff that contains a variety of contaminants, such as oil, grease, and heavy metals. If done in an improper manner, the result is runoff entering the storm drain system and our Bay. Residents are permitted to wash their cars under the following situations: on a hardscape surface draining to the public storm drain system (street or alley) requires no use of detergents and an automatic shutoff valve at the end of the hose. Detergents are permitted if you direct runoff to landscape or berm or dike the runoff, wet vacuum it and dispose into the sanitary sewer. Wash with detergents on a landscaped surface with automatic shut-off. For all other car washing purposes, use a commercial car wash facility.

Charity, fund-raising car washes: Washing cars in a parking lot produces a significant amount of runoff pollution. The Western Carwash Association (WCA) has a win-win alternative that raises money for one’s charitable cause and protects the environment.

For more information, contact the WCA at www.wcwa.org, 800.344-WASH (9274) or 562.928.6928. The City also has information about this charity carwash program and other environmentally-responsible vehicle washing strategies and practices.

Existing Properties: "Good Housekeeping" Requirements to Reduce Urban Runoff

Equipment Maintenance

Motor vehicle parts containing oil, grease or other hazardous substances shall not be stored in areas susceptible to precipitation and runoff (Ordinance Section 7.10.040 b). Motor vehicle parts must be completely enclosed or covered, protecting parts from contact with water.

Any machine or vehicle that must be repaired in an uncovered outdoor area shall be placed on a pad of absorbent material to contain leaks and small discharges of hazardous substances.

Machinery and equipment, including motor vehicles, that leak significant amounts of oil or hazardous fluids must be repaired immediately. Absorbent material must be placed under leaking vehicles.

Remove Debris and Residue

All motor vehicle parking lots susceptible to precipitation and runoff shall be swept at least once a month to remove debris (Ordinance Section 7.10.040 c,d).

All public parking facilities and private lots with 10 or more parking spaces must be vacuum swept on at least a quarterly basis. Lots are exempted from the sweeping requirement for one month after a rainfall of one-half inch or more.

Chemical residues and other types of potentially harmful materials, such as animal waste, garbage, batteries and household hazardous waste, shall be removed immediately from precipitation and runoff- susceptible areas, and

disposed of properly. Household hazardous waste may be disposed of at the City's Household Hazardous Waste Collection Center or at any other appropriate disposal site. Household hazardous waste may not be disposed of in a trash container.

Intentional disposal of landscape debris into a storm drain or catch basin is prohibited, as is discharge of any other types of pollutants into such a drain or basin.

Pesticides or fungicides that have been banned from manufacture by the United States Environmental Protection Agency cannot be used in the City of Santa Monica.

Penalties for Non-Compliance

For failure to comply with any provision of these guidelines, the City's Department of Environmental and Public Works Management will issue you an infraction. Each subsequent failure to comply with Good Housekeeping guidelines may result in a \$500 penalty for each day the violation occurs.



<Cleaning up after your pet is the responsible way to care for our community!>

Glossary of Terms

Defining a Cleaner Future

This glossary provides an overview of the terms and concepts most important in understanding and complying with Santa Monica's Urban Runoff Pollution Control Ordinance.

Area Susceptible to Runoff

Any non-permeable surfaces, such as parking lots, streets, walkways, roofs, etc., that are directly exposed to rainfall or are in the path of runoff caused by rainfall, washing activities, or irrigation, and that lead directly to neighboring properties, streets or storm drains.

Best Management Practice BMP

Management practices, activities and structures used for construction sites, parking lots, existing properties and new developments that reduce the amount of urban runoff that flows from the area into storm drains and ultimately, the Santa Monica Bay. BMPs also reduce the level of toxic substances that find their way into runoff or the Bay.

Good Housekeeping Requirements

Practices for existing properties and improvements that reduce the amount of urban runoff pollution that flows into storm drains and ultimately the Santa Monica Bay.

Improvement

Changes to an existing building that consist of those alterations that add value, prolong useful life, or adapt it to a new use or uses.

New Development

New development shall constitute any of the following (Ordinance Section 7.10.030 d):

Any construction project on a vacant site or on a site where fifty percent (50%) or more of the square footage of the structure is removed prior to construction.

Any construction project where an existing building or structure has been damaged, or is in need of repairs, or the owner desires to make improvements, repairs, alterations, or rehabilitation in an amount exceeding fifty percent (50%) of the replacement cost of the building or structure.

Any construction project that (a) results in improvements to fifty percent or greater of the square footage of a building, (b) creates or adds at least 5,000 square feet of impervious surfaces, or (c) creates or adds fifty percent or more of impervious surfaces.

Non-point Source Pollution

Pollution that cannot be traced to one single source. Urban runoff pollution is usually non-point source pollution because its sources are varied and diverse.

Post-construction BMP

A BMP implemented upon completion of a construction project.

Projected Runoff

New 0.75" numerical standard.

Source Control BMP

Non-structural activities, practices, and procedures that are designed to prevent pollutants from coming in contact with precipitation and urban runoff.

Storm Event

0.75 inches of rainfall within a consecutive 24-hour period that is separated from the previous storm event by at least 72 hours of dry weather.

Structural BMP

Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution. The category may include both Source Control and Treatment Control BMPs.

Treatment Control BMP

Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological or chemical process. This BMP removes pollutants after they come in contact with precipitation and runoff.

Urban Runoff Mitigation Plan

A plan required to be approved by the City for any new or retrofit development project. The plan will stipulate how a post-construction reduction of 0.75" in urban runoff will be achieved at the site.

Urban Runoff

Water deposited by storms or from other sources that passes through the City's stormwater conveyance system directly into the Santa Monica Bay. Urban runoff may contain substantial levels of pollutants, such as solid wastes, petroleum-based compounds, heavy metals, nutrients (nitrogen and phosphorous compounds), pathogens, sediments, organic chemicals, and pesticides, insecticides and other lawn care and cleaning materials.

Sources of Information and Assistance

Emergency Response

IN THE EVENT OF A HAZARDOUS SUBSTANCE EMERGENCY..... 911

IN THE EVENT OF HAZARDOUS WASTE SPILLS..... 458-8660

CIVIL ENGINEERING..... 458-8721

CONTAMINATED SOIL OR GROUNDWATER..... 458-8911

ENVIRONMENTAL PROGRAMS DIVISION..... 458-2213

HAZARDOUS WASTE MANAGEMENT..... 458-8227

TO REPORT ILLEGAL DUMPING OR CLOGGED STORM DRAIN..... 458-8532

SOLID WASTE MANAGEMENT..... 458-2223

WASTEWATER DIVISION..... 458-8532

WATER RESOURCES PROTECTION SECTION..... 458-8235

Reuse / Recycling / Disposal

CHEMICALS/VEHICLE FLUIDS AND SOLVENTS WASTE..... 458-8255

COMPOSTING/YARD WASTE..... 458-2228

CONCRETE AND ASPHALT DEMOLITION WASTE..... 828-7076

SCRAP METALS..... 458-8526

PAINT AND LACQUER..... 458-8255

USED MOTOR OIL..... 458-8255

WOOD..... 458-2223

HOUSEHOLD HAZARDOUS WASTE DISPOSAL..... 458-8255

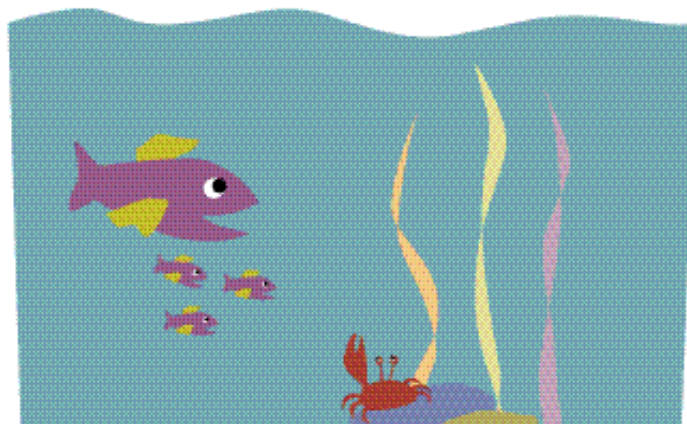
City of Santa Monica's Pollution Prevention Hotline, 310-458-8945
to report anyone dumping suspicious, illegal or hazardous materials into a storm drain; abandoned chemicals on the street or sidewalk; leaks of chemicals or sewage; hosing of alleys, sidewalks, driveways and streets; discharging of pool water; and irrigation systems on during the day (10 AM to 4 PM) or malfunctioning.

If you have any questions about your Mitigation Plan, call Engineering, 310-458-8721, or the Urban Runoff Coordinator, 310-458-8223.

Additional copies of this publication are available from the City of Santa Monica's Urban Runoff Coordinator, Environmental Programs Division, 200 Santa Monica Pier, Santa Monica, California 90401.

A PDF version of this brochure can be downloaded from www.smepd.org.

Working for a cleaner bay



For more information contact 310-458-8223
or visit www.smeprd.org

Urban Runoff Management Program

City of Santa Monica Environmental & Public Works Management
Environmental Programs Division
200 Santa Monica Pier, Santa Monica, California 90401

